IN THE CLAIMS ATTACHED TO THE INTERNATIONAL PRELIMINARY EXAMINATION REPORT:

Please cancel claims 1-23 without prejudice or disclaimer, and add new claims 24-50, as shown below in the detailed listing of all claims which are, or were, in the application:

Claims 1-23 (Canceled).

24. (New) An apparatus to assist a patient's respiration by delivering air to this patient through a mask, comprising an air blower wherein the impeller is rotated by an electromotor comprising a rotor and a stator, said stator having at least three sectors, the rotation of the rotor being enabled by changes of the polarity of the sectors, each sector's polarity configuration constituting one step of the rotor's rotation, said apparatus further comprising a driving unit controlling changes of the sector's polarity configuration such that the electromotor enables the blower to achieve fast accelerations and decelerations within one patient's breath step, said breath step consisting of one inspiration and one expiration;

wherein said driving unit comprises means to sense a back electromotor force generated by the electromotor for changing the

sector's polarity configuration when the back electromotor force reaches a zero value.

25. (New) The apparatus according to claim 24, wherein said stator has at least three sectors, each of said sectors being connected to one switch connected to a positive plot of the power supply and each of said sectors being connected to one switch connected to a negative plot of the power supply, in order that one of the rotor's rotation step is obtained when said driving unit applies tension to the stator by connecting the first sector to said positive plot, connecting the second sector to the negative plot and setting the third sector not connected to a power supply plot, thus enabling to measure the back electromotor force of the motor between the third sector and the negative plot, said driving unit changing the sectors polarity configuration when the back electromotor force reaches a zero value.

26. (New) The apparatus according to claim 25, wherein said tension applied is a Pulse Width Modulation, the driving unit connecting one of said stator sectors to the positive plot during a first duration of time and then, during a second period,

disconnecting the same sector from the positive plot and connecting it to the negative plot, so that in case of deceleration of the motor the generated current is sent to the negative plot, thus providing a fast deceleration of the impeller.

27. (New) The apparatus according to claim 25, wherein said stator is a three sectors stator and said rotor is a dipole magnet, said stator thus having six sectors polarity configuration so that the rotor performs one 360° rotation in six rotation steps.

28. (New) The apparatus according to claim 24, wherein said stator is a toroidal stator and wherein each of said sectors are coils connected with only one wire.

29. (New) The apparatus according to claim 24, wherein when the blower is functioning and no back electromotor force is measured, said driving unit fixes the tension applied and changes the sectors polarity configuration after a given time, said driving unit decreasing this given time every step until a back electromotor is detected and then applying the required tension and changing the

sectors polarity configuration according to the back electromotor value.

30. (New) The apparatus according to claim 24, further comprising bearings and a bearing holder, and wherein said impeller, said rotor and a shaft of said impeller are fixed together, an inner ring of the bearings being fixed to said shaft and outer rings of said bearings being held by the bearing holder, which is fixed in the apparatus, and said rotor being shifted outside the stator, so that the stator also generates on the rotor an axial force oriented along said shaft, thus generating a preload on the bearings.

31. (New) The apparatus according to claim 30, wherein said rotor is shifted outside of the stator at an equal distance of each of the three stator sectors.

32. (New) The apparatus according to claim 24, further comprising a power supply manager adapted to be connected to a positive power supply source, said power supply manager comprising a current sensor, a comparator, a load resistor and a means to switch on the load resistor between the positive power supply and a ground when

the current measured by said current sensor is negative, in order to dissipate this current in said load resistor by thermal effect.

33. (New) The apparatus according to claim 24, being designed to be connected to a tube having a diameter less than 22 millimeters, a first extremity of the tube being connected to an air outlet of the blower and a second extremity of the tube being connected to a mask in which the patient breaths.

34. (New) The apparatus according to claim 24, further comprising:
- at least one means for detecting the patient's breathing parameters,
- a pressure control unit to adjust the pressure delivered by said blower at the level of said mask, and comprising an estimation module connected to the means for detecting the patient's breathing parameters, in order that the estimation module is able to determine when the patient is inspiring or expiring and in response the pressure to apply to the patient's mask, during inspiration and during expiration.

35. (New) The apparatus according to claim 34, wherein said at least one means detects the patient's airflow and sends it to a breath estimator which determines the airflow as a function of time and transmits this function to said estimation module which will thus estimate the pressure to apply to patient's mask according to the airflow function, in order to decrease the effort of the patient's lung while maintaining, during one breath step, the average value of the pressure at the mask P_M equal to the pressure of treatment.

36. (New) The apparatus according to claim 35, wherein said estimation module determines the pressure P_M at the mask as a function of time.

37. (New) The apparatus according to claim 34, wherein the control unit comprises a nonvolatile memory in which the clinician can enter clinical settings comprising at least the treatment pressure and optionally the pressure to apply according to the patient's breathing parameters, said estimation module providing the pressure PM according to these clinical settings and to the patient's breathing parameters.

38. (New) The apparatus according to claim 37, wherein the patient can enter patient settings in said nonvolatile memory, said estimation module providing the pressure according to these patient settings and to the patient's breathing parameters within bounds given by the clinician settings.

39. (New) The apparatus according to claim 34, in which the estimation module is able to determine that an event(E_1, E_2 or E_3) occurs in patient's breathing thus enabling said pressure control unit to provide the blower with the tension to apply to adjust the pressure at patient's mask.

40. (New) The apparatus according to claim 34, wherein said means for detecting the patient's breathing parameters enable the pressure control unit to compute the airflow at patient's mask, said estimation module determining that an event (E_1, E_2 or E_3) is occurring with the airflow parameters or shape.

41. (New) The apparatus according to claim 34, wherein said estimation module has an inspiration output where said estimation module set the mask pressure PM value during inspiration, and

wherein said estimation module has an expiration output where said estimation module set the mask pressure PM value during expiration, said pressure control unit comprising a switch which is connected alternatively to the inspiration output or expiration output according to patient's breathing.

42. (New) The apparatus according to claim 34, wherein the means for detecting the patient's breathing parameters comprise a pressure sensor for sensing the pressure at said first tube extremity and one pressure sensor for sensing the pressure at the extremity of the tube connected to the blower outlet, said airflow computation module being able to calculate the airflow from these pressures and from the tube airflow resistance coefficient KT.

43. (New) The apparatus according to claim 34, wherein the apparatus further comprises a starting means which, when actuated, orders the estimation module to detect a breathing activity, said estimator module sending the instruction to stop the blower if no activity is sensed after a given delay.

44. (New) The apparatus according to claim 24, wherein a power supply manager comprises a communication module which transmits the data through the power source wires.

45. (New) The apparatus according to claim 44, wherein said communication module comprises a Frequency Shift Keying (FSK) modulator which transforms the binary data sent by the apparatus sensors or elements in a modulation of the frequency of the tension applied on a voltage controlled current source, connected to the external power supply so that the voltage controlled current source transmits the modulation corresponding to the data, a FSK demodulator converting the voltage frequency modulation into binary data and transmits it to the elements, so that each sensor or module connected to the power source is able to receive or transmit information.

46. (New) The apparatus according to claim 24, further comprising a phonic insulation box wherein the blower is placed, said impeller having a size less than 60 mm and comprising between 15 and 45 blades, so that the impeller rotates at a speed that generates a

sound at a high frequency, enabling said box to insulate the patient from noise.

47. (New) The apparatus according to claim 46, wherein said impeller has 27 blades.

48. (New) The apparatus according to claim 24, wherein said apparatus is adapted to be used for the treatment of a breathing anomaly.

49. (New) The apparatus according to claim 48, wherein said breathing anomaly is selected from the group consisting of snoring, apnea or hypoapnea.

50. (New) The apparatus according to claim 28, wherein said stator is obtained by a strip wound cores technique with a high grade thin silicon steel, of about 0.05 mm thickness.